

Claims 1, 6, 14-17, 19, 24 and 25 are also rejected under 35 U.S.C. § 102(b) as being anticipated by Rohringer et al., WO 98/42685.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Fringeli, DE2335570.

Claims 37-39 have been cancelled.

Claims 1, 3-6, 10-13, 21, 22 and 31 have been amended.

Claims 1-6 and 10-36 are presented for reconsideration.

REMARKS

Responsive to the restriction requirement set forth in the Office action, applicants affirm the election of group I, claims 1-25, for examination.

This restriction requirement is respectfully traversed for the following reasons.

On entry of the present amendment, the instant invention is directed to a new class of 4,4'-diamino-stilbene-2,2'-disulfonic acid compounds of the formula (1) and their preparation (claims 1-25), compositions comprising them and a single process for their use as fluorescent whitening agents comprising contacting a substrate with a compound of the formula (1) (claims 31-37). Hence the technical feature as set forth in claim 1, compounds of the formula (1), is common to Groups I and II.

Since the present application has been filed as a national application via the PCT route, the corresponding PCT provisions apply.

According to Rule 13.1 PCT *an international application shall relate to one invention only or to a group of inventions so linked as to form a single general inventive concept ("requirement of unity of invention")*.

Rule 13.2 PCT is directed to the circumstances in which the requirement of unity of invention is to be considered fulfilled. It reads:

Where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

Applicants aver that there clearly is a technical relationship among the above inventions since they involve one or more of the same or corresponding technical features as laid down in the relevant PCT-provision (see the features of the claimed whitener compound). It is well established jurisprudence within the PCT community that claims directed to a product and to the preparation and the use thereof are considered to fulfill the requirement of unity.

According to the PCT, the unity of an invention can be assessed prior to (*a priori*) or after consideration of the prior art (*a posteriori*). In the present case the International Searching Authority as well as the International Preliminary Examining Authority have acknowledged the unity of the present invention *a priori* as well as *a posteriori*.

Finally, the examiner has failed to establish that it would be a serious burden to examine the entire application. See MPEP § 803. Indeed, from the search required for Group I, it appears that very little additional burden would be required. It is respectfully noted that a mere difference in classification is not an appropriate basis for restriction. The classification system was set up for purposes of information retrieval (35 U.S.C. § 9), and not for the purpose of establishing the propriety of a restriction requirement (35 U.S.C. § 121).

For all of the above reasons, reconsideration and withdrawal of the restriction requirement is respectfully solicited.

Claims 1, 3-6, 10-13, 21, 22 and 31 have been amended by replacement. No other claims have been amended. No claims have been added.

Another version of the amended claims, showing the changes relative to the previous version, is appended. Additions are shown by underlining. Deletions are shown by strikethrough rather than bracketing since the claims may contain bracketing that is to remain. No new matter has been added.

Claims 1-25 are rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Responsive thereto applicants have amended their claims in order to more particularly point out and distinctly claim their invention. Thus, claims 1, 10 and 11 no longer recite a group OCOM. Additionally, the term "residue" has been replaced throughout the claims by "group" as the examiner suggests.

Claim 1 no longer recites, "or a mixture or an optical isomer thereof". Rather, claim 4 now recites, "or the R₁ residues are derived from mixtures or optical isomers of said amino acids" in order to more clearly define R₁ (see the disclosure on page 4, first full paragraph).

Amended claims 12, 13 and 22 do not recite groups and compounds. Rather, any groups that might have been interpreted as compounds have been replaced by unambiguous structural formulae. No new matter has been added.

It is respectfully submitted that all the claims submitted for reconsideration are in good formal order. Reconsideration and withdrawal of the rejection of claims 1-25 under 35 U.S.C. §112, second paragraph is therefore solicited.

Claims 1, 6, 14-17, 19, 24 and 25 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cowman et al., WO 96/00221. Claims 1, 6, 14-17, 19, 24 and 25 are also rejected under 35 U.S.C. § 102(b) as being anticipated by Rohringer et al., WO 98/42685. Finally, claim 1 is rejected under 35 U.S.C. § 102(b) as being anticipated by Fringeli, DE2335570. Applicants respectfully traverse all of these rejection for the reasons that follow.

The examiner appears to assert that the definitions in the generic formulae of the references anticipate the instant claims. However this assertion is in error as to fact and law.

First, the proper test for anticipation was not applied. The proper test for anticipation is whether the instant claims read on the actual compounds and/or methods shown in the reference, not whether there is overlap between a generic scope and the claimed invention.

Secondly, the assertion is factually incorrect. Not only the Fringeli reference, but also that of Cowman et al. (WO 96/00221) and of Rohringer et al. (WO 98/42685), both latter references being cited in the instant Application, solely claim compounds in which the anilino group attached to the triazine rings carries NO further substituent on the anilino nitrogen atom. In other words, all of the cited prior art refers to compounds which would only fall within the scope of the instant invention should R₂ represent hydrogen, which is clearly NOT the case.

This is indeed the crux of the instant invention, which, as discussed on page 2, second paragraph, surprisingly results in fluorescent whitening agents having superior properties and being more readily prepared than those previously described by Cowman et al. and by Rohringer et al. Since none of the cited references teaches or suggests making and using as fluorescent whitening agents compounds of the formula (1) in which the anilino group attached to the triazine rings is substituted, applicants aver that the present invention is both novel and unobvious.

Reconsideration and withdrawal of the rejections under 35 U.S.C. § 102(b) of claims 1, 6, 14-17, 19, 24 and 25 as being anticipated by Cowman et al., WO 96/00221, and of claims 1, 6, 14-17, 19, 24 and 25 as being anticipated by Rohringer et al., WO 98/42685 and of claim 1 as being anticipated by Fringeli, DE2335570, is respectfully solicited in light of the remarks *supra*.

Applicants also remind the examiner of the *In re Ochiai* [37 USPQ2d 1127(CAFC, 1995)] and *In re Brouwer* [37 USPQ2d 1663 (CAFC, 1995)] Court decisions and the Commissioner of Patents and Trademarks' OG Notice concerning them entitled "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer*, and 35 U.S.C. § 103(b)", 1184 Off. Gaz. Pat. Office 86 (March 26, 1996) in this regard. According to the Guidance

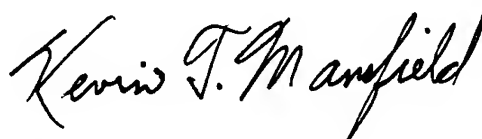
... to facilitate examination under §103, where product and process claims are presented in the same application, applicant may be called upon under 35 U.S.C. § 121 to elect claims to either the product or process. The claims to the non-elected invention will be withdrawn from further consideration. However, in the case of an elected product claim, rejoinder will be permitted when a product claim is found allowable and the withdrawn process claim depends from or otherwise includes all the limitations of an allowed product claim.

In accord with the guidelines, on finding the product claims to be allowable, applicants respectfully request rejoinder of claims 31-37, directed to compositions comprising them and a single process for their use as fluorescent whitening agents.

Since there are no other grounds of objection or rejection, passage of this application to issue with claims 1-25 and 31-37 is earnestly solicited.

Applicants submit that the present application is in condition for allowance. In the event that minor amendments will further prosecution, Applicants request that the examiner contact the undersigned representative.

Respectfully submitted,



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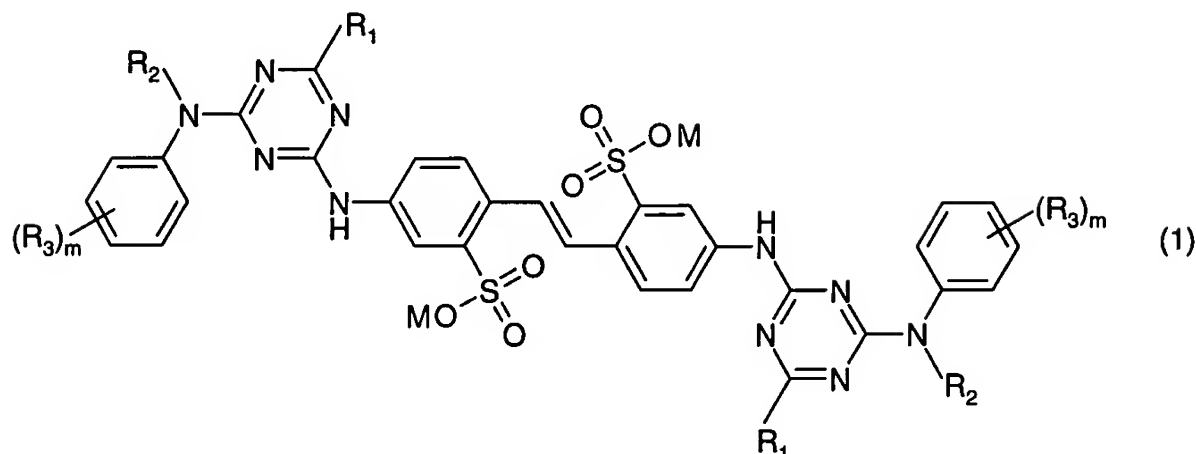
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APPENDIX: Marked up version of amended claims.

1. (amended) A compound having the formula:



wherein each

R_1 represents, independently, a 2-methoxyethylamino group linear C_4 - C_4 ~~alkylene residue which is unsubstituted or~~

~~substituted by hydroxy, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, C_1 - C_4 -hydroxy or alkoxy-alkoxy,~~

~~OCOM, OCOC $_1$ - C_4 -alkyl, or an amino acid residue group~~ from which a hydrogen atom on the amino group has been removed; each

R_2 represents, independently, a linear C_1 - C_4 -alkylene ~~residue group~~ which is unsubstituted or substituted by hydroxy, C_1 - C_4 -alkyl, C_1 - C_4 -alkoxy, C_1 - C_4 -hydroxy- or alkoxy-alkoxy,

~~OCOM, OCOC $_1$ - C_4 -alkyl, -CO $_2$ M, CO $_2$ C_1 - C_4 -alkyl SO $_3$ M or phenoxy~~ which is unsubstituted or substituted by halogen, C_1 - C_4 -alkyl or C_1 - C_4 -alkoxy, -CO $_2$ M or -CO $_2$ C_1 - C_4 -alkyl, NH $_2$ or mono- or disubstituted amino; or phenyl which is unsubstituted or substituted by 1 to 3 SO $_3$ M,

SO $_2$ NHC $_1$ - C_4 -alkyl, -SO $_2$ NH $_2$, -CO $_2$ M, -CO $_2$ C_1 - C_4 -alkyl, -CONH $_2$, -CONHC $_1$ - C_4 -alkyl, -NHCOC $_1$ - C_4 -alkyl or mono- or disubstituted amino groups; each

R_3 represents, independently, hydrogen, C_1 - C_4 -alkyl, halogen, cyano, SO $_3$ M, -SO $_2$ NH $_2$,

SO $_2$ NHC $_1$ - C_4 -alkyl, -CO $_2$ M, -CO $_2$ C_1 - C_4 -alkyl, -CONH $_2$, -CONHC $_1$ - C_4 -alkyl, or -NHCOC $_1$ - C_4 -alkyl;

M is hydrogen, an alkali metal atom, ammonium or a cation formed from an amine and

m is an integer of 1 to 3.

3. (amended) A compound according to claim 2 in which each R_1 is an amino acid group residue and each has the formula -NH-CH(CO $_2$ H)- R_4 in which R_4 is hydrogen or a group having the formula

-CHR₅R₆ in which R₅ and R₆, independently, are hydrogen or C₁-C₄-alkyl optionally substituted by one or two substituents selected from hydroxy, thio, methylthio, amino, carboxy, sulfo, phenyl, 4-hydroxyphenyl, 3,5-diiodo-4-hydroxyphenyl, β-indolyl, β-imidazolyl and NH=C(NH₂)NH-.

4. (amended) A compound according to claim 3 in which the amino acid from which the amino acid ~~group residues~~ R₁ ~~are is~~ derived is glycine, alanine, sarcosine, serine, cysteine, phenylalanine, tyrosine (4-hydroxyphenylalanine), diiodotyrosine, tryptophan (β-indolylalanine), histidine ((β-imidazolylalanine), α-aminobutyric acid, methionine, valine (α-aminoisovaleric acid), norvaline, leucine (α-aminoisocaproic acid), isoleucine (α-amino-β-methylvaleric acid), norleucine (α-amino-n-caproic acid), arginine, ornithine (α,δ-diaminovaleric acid), lysine (α,ε-diaminocaproic acid), aspartic acid (aminosuccinic acid), glutamic acid (α-aminoglutaric acid), threonine, hydroxyglutamic acid or taurine, ~~or a mixture or an optical isomer thereof~~ the R₁ groups are derived from mixtures or optical isomers of said amino acids.

5. (amended) A compound according to claim 4 in which the amino acid from which the amino acid ~~residues~~ group R₁ ~~are is~~ derived is sarcosine, taurine, glutamic acid or aspartic acid.

6. (twice amended) A compound according to claim 1 in which the amino acid from which each amino acid ~~residue~~ group R₁ is derived is aspartic acid or iminodiacetic acid.

10. (twice amended) A compound according to claim 1 in which the group R₂ represents a linear C₁-C₄-alkylene ~~residue~~ group which is unsubstituted or substituted by hydroxy, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-hydroxy or alkoxyalkoxy, ~~OCOM~~, -OCOC₁-C₄-alkyl, -CO₂M, -CO₂C₁-C₄-alkyl, SO₃M, phenoxy which is unsubstituted or substituted by halogen, C₁-C₄-alkyl, C₁-C₄-alkoxy, -CO₂M or -CO₂C₁-C₄-alkyl, NH₂ or mono- or disubstituted amino and M is as defined in claim 1.

11. (twice amended) A compound according to claim 10 in which the group R₂ represents a methylene, ethylene or propylene ~~residue~~ group which is substituted by hydroxy, C₁-C₄-alkyl, C₁-C₄-alkoxy, C₁-C₄-hydroxy- or alkoxy-alkoxy, ~~OCOM~~, -OCOC₁-C₄-alkyl, -CO₂M, -CO₂C₁-C₄-alkyl, SO₃M or di-C₁-C₄-alkylamino.

12. (twice amended) A compound according to claim 10 in which R₂ is hydroxyethyl, hydroxypropyl, ethoxyethyl, hydroxyethoxyethyl, methoxyethoxyethyl, ~~an acetic or propionic acid residue~~ the group ~~an ethyl or methyl acetate~~ the group -CH₂CO₂H or -CH₂CH₂CO₂H or methyl or ethyl esters thereof,

-CH₂OC(=O)CH₃ or -CH₂OC(=O)C₂H₅, dimethylaminoethyl or ethyl sulphonic acid or the sodium salt thereof.

13. (amended) A compound according to claim 12 in which R₂ is hydroxyethyl or ~~a sodium acetate residue~~ the group -CH₂C(=O)O⁻Na⁺.

21. (twice amended) A compound of formula 1 according to claim 1 in which:

R₁ is an amino acid ~~residue~~ group derived from aspartic acid or iminodiacetic acid,

R₂ is hydroxyethyl,

R₃ is hydrogen and

M is sodium.

22. (twice amended) A compound of formula 1 according to claim 1 in which:

R₁ is a 2-methoxyethylamino ~~residue~~ group,

R₂ is ~~a sodium acetate residue~~ the group -CH₂C(=O)O⁻Na⁺,

R₃ is hydrogen and

M is sodium.

31. (amended) A composition for whitening synthetic or natural organic materials ~~or for removing stain from photographic materials~~, which contains water, a fluorescent whitening agent according to claim 1 and, optionally, auxiliaries.